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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,930	01/11/2002	Scott A. Millsap	DP-305590	9261

7590 03/02/2006

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EXAMINER

BARNES, CRYSTAL J

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 03/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

6

Office Action Summary	Application No. 10/043,930	Applicant(s) MILLSAP ET AL.	
	Examiner Crystal J. Barnes	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-32 is/are allowed.
- 6) ☒ Claim(s) 33-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/24/05 & 7/18/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is an initial Office Action upon examination of the above-identified application on the merits. Claims 1-37 are pending in this application.

Information Disclosure Statement

2. The examiner has considered the information disclosure statements (IDS) submitted on 18 July 2003 and 24 March 2005.

Drawings

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 33-37 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A computer data signal is non-statutory as being intangible medium incapable of being touched or perceived absent the tangible medium through which it is conveyed. When nonfunctional descriptive material is recorded on some computer-readable medium, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make it statutory. Such a result would exalt form over substance. Thus, a nonstatutory natural phenomena (signal as a form of energy) is not a computer component and it does not become statutory by merely recording it on a computer-readable storage medium.

Allowable Subject Matter

5. Claims 1-32 are allowable.
6. The following is a statement of reasons for the indication of allowable subject matter:

As per claim 1, the prior art of record taken alone or in combination fails to teach during said given control loop time $T = N$, said calculated output control data from each individual control node is further transmitted over said communication bus to be later utilized by other control nodes coupled to said communication bus during a subsequent control loop time $T = N+1$.

As per claim 11, the prior art of record taken alone or in combination fails to teach during said given control loop time $T = N$, said calculated output control data from said first and second control nodes is further transmitted over said communication bus to be utilized during a subsequent control loop time $T = N+1$.

As per claim 21, the prior art of record taken alone or in combination fails to teach means for synchronizing, within a given control loop time $T = N$, a selected set of reference input signals and feedback signals to be used in producing said first and second actuator outputs; wherein said selected set of reference input

signals and feedback signals used in producing said first and second actuator outputs are generated during a previous control loop $T = N-1$.

As per claim 28, the prior art of record taken alone or in combination fails to teach during said given control loop time $T = N$, said calculated output control data from each individual control node is further transmitted over a common communication bus to be later utilized by other control nodes coupled to said communication bus during a subsequent control loop time $T = N+1$.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to synchronizing data in redundant systems in general:

USPN 6,853,920 B2 to Hsiung et al.

USPN 6,826,607 B1 to Gelvin et al.

USPN 6,732,300 B1 to Freydel

USPN 6,577,231 B2 to Litwin et al.

USPN 5,274,554 to Takats et al.

USPN 4,492,874 to Near

USPN 4,303,978 to Shaw et al.

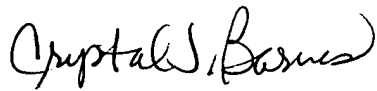
USPN 3,745,882 to Anderson

US Pub. No. 2005/0273182 A1 to Pearce et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Crystal J. Barnes whose telephone number is 571.272.3679. The examiner can normally be reached on Monday-Friday alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571.272.3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



CJB

27 February 2006